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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/801,758

**Applicant(s)**

NIGAM ET AL.

**Examiner**

OMAR F. FERNANDEZ RIVAS

**Art Unit**

2129

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☒ Claim(s) 46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE/US)
- Paper No(s)/Mail Date 6/14/2004
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-51 are pending on this application.

#### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show by reference number the details of the invention as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Claims 1, 3, 5, 16, 17, 20, 35, 40, 42, 43 and 46-51 are objected to because of the following informalities:

**Claims 1, 3 and 35**

The claims recite "a test set group of communications, test set group of communications..." The claims should read "a test set group of communications, **the** test set group of communications..."

**Claim 5**

The claim recites "mis-labeled by user" the claim should read "mis-labeled by **the** user".

**Claim 16**

Claim 16 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 14. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

**Claim 17**

The claim reads "a list of things that are considered irrelevant". The claim should read a list of **items** that are considered irrelevant".

**Claims 20, 39 and 42**

The claims read "the method of **claims**..." The claim should read "the method of **claim**..."

**Claims 40 and 43**

Claims 40 and 43 are objected to under 37 CFR 1.75 as being a substantial duplicate of claim 38. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

**Claim 42**

Claim 42 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 39. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

**Claims 46-51**

The claims must be numbered consecutively beginning with the number next following the highest numbered claims. There is no claim 46 and the claims go from claim 45 to claim 47.

**Claim 48**

Claim 48 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 41. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

The Applicants cooperation is respectfully requested on correcting any other errors that they might become aware of. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2, 3, 9, 19, 21, 24, 25, 33, 50 and 51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Claims 3, 21, 33, 50 and 51**

The claims recite limitations inside parenthesis "(text, electronic, etc.)". It is not clear what the intent of the words inside the parenthesis is (are they examples of what these communications may be, are the communications supposed to be restricted to these types of communications?). Moreover, the "etc." leaves the communication open to be interpreted as any type of communication. This makes the claim indefinite since it is not clear what type of data is being handled or processed by the claimed invention.

**Claim 2**

The claim recites "assessing a value". However, there is no further description as to what criteria or measure is used to assess this value. A person of ordinary skill in the arts would not be able to determine the intent or scope of this limitation in the claim since any criteria could be used to assess a value.

The claim also recites "selecting a next group for labeling based upon the greatest respective value **that will be provided** to the classifier being developed from the assessing step". It is noted that the claim does not suggest that a value will be assessed for each group, but suggests that only one value is assessed. There is also no antecedent basis for "the greatest respective value" (no respective value has been defined and no greatest respective value has been identified). Also the claim recites that the next group will be selected based on the greatest respective value **that will be provided** in the assessing step. How can the next group be selected based on a value that has not yet been provided?

#### **Claim 9**

The claim recites "...upon **the achieving** known performance bounds for the classifier". There is insufficient antecedent basis for this limitation in the claim.

#### **Claim 19**

The claim recites "the expression and/or **the criteria document**". There is insufficient antecedent basis for the criteria document in the claim.

#### **Claim 24**

The claim recites "subsequent questions". There is insufficient antecedent basis for this limitation in the claim (note that claim 24 depends on claim 21 where there is no description of questions).

#### **Claim 25**

The claim recites "the questions". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-51 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer system must set forth a practical application of judicial exception to produce a real-world result. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application.

For a claimed invention to be statutory the claimed invention must produce a useful, concrete, and tangible result. As the Supreme Court has made clear, "[a]n idea of itself is not patentable," *Rubber-Tip Pencil Co. v. Howard*, 20 U.S. (1 Wall.) 498, 507 (1874); taking several abstract ideas and manipulating them together adds nothing to the basic equation. *In re Warmerdam*, 31 USPQ2d 1754 (Fed. Cir. 1994).

For a claimed invention to be statutory under 35 U.S.C. 101, the claims must provide a tangible result, and there must be a practical application, by either: 1) transforming (physical thing) or 2) by having the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result. In the present case, claim 1 describes a computer implemented method for developing a classifier. However, the claim fails to provide a tangible result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought,



a computation, or manipulated data. More specifically, the claimed subject matter provides for developing a classifier in a computer. A classifier is a computer algorithm, which is an abstraction that has no real world value unless it is implemented by the computer to produce a result that is provided to a user (note that no actual use is being given to the classifier in the claim). This produced result remains in the abstract and, thus, fails to achieve the required status of having real world value.

The claim also fails to provide a concrete result because the claimed subject matter fails to be limited to the production of an assured, repeatable result. More specifically, the claimed subject matter is not repeatable because the classifier will be developed based on the labeling given by a user to the communications (relevant or irrelevant). Since there is no measure or restriction as to how the user will consider the communications relevant or irrelevant, each user may have different criteria to decide what they consider relevant or irrelevant. Therefore, each classifier developed for the same communications may not be the same, depending on the labels given by the user to the communications (different results for the same inputs).

Claims 2-3 further limit claim 1 but fail to cure the deficiencies set forth above and are rejected on the same basis.

Claims 3, 21, 33, 50 and 51 recite limitations similar to that of claim 1 and are rejected on the same basis. The claims which depend upon these claims are rejected for failing to cure the deficiencies set forth above in their respective independent claim.

The courts have also held that a claim may not preempt ideas, laws of nature or natural phenomena. The concern over preemption was expressed as early as 1852.

See Le Roy v. Tatham, 55 U.S. (14 How.) 156, 175 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right."); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

Accordingly, one may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent "in practical effect would be a patent on the [idea, law of nature or natural phenomena] itself." "Here the "process" claim is so abstract and sweeping as to cover both known and unknown uses of the BCD to pure-binary conversion. The end use may (1) vary from the operation of a train to verification of drivers' licenses to researching the law books for precedents and (2) be performed through any existing machinery or future-devised machinery or without any apparatus." Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

In the present case, claims 1, 3, 21, 33, 50 and 51 provide for developing a classifier for classifying **communications**. The claims do not restrict these communications to any specific type of communication. Therefore the claim provides for classifying **any** type of communication possible, which includes any existing communication that can be handled by a computer or any communication that could be developed that could be handled or processed by a computer.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 6-10, 16-17, 19-21, 27-29, 31-43 and 49-51 are rejected under 35 U.S.C. 102(b) as being anticipated by Lewis (US Patent #5,675,710, referred to as **Lewis**).

#### **Claim 1**

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying communications (**Lewis**: abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising the steps of:

(a) presenting communications to a user for labeling as relevant or irrelevant, the communications being selected from groups of communications including (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; Examiner's Note (EN): item 14 applies. Note that communications are **selected** from groups of communications, therefore selecting from **one** of these groups will read on the limitation. It is also noted that these definitions of groups can be considered non-functional descriptive material, since the classifier generated does not seem to depend from which of these groups the communications are selected (the different groups add nothing to the functionality of the claimed invention)):

a training set group of communications, the training set group of communications being selected by a traditional active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 14 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The

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machine annotated data and the manually annotated data will form the training set for the classifier);

a system-labeled set of communications previously labeled by the system (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system);

a test set group of communications, test set group of communications for testing the accuracy of a current state of the classifier being developed by the present method (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12,L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced);

a faulty set of communications suspected to be previously mis-labeled by the user (EN: not considered);

and a random set of communications previously labeled by the user (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; EN: the manually annotated documents are used by the supervised learning system to train the classifier);

(b) developing a classifier for classifying communications based upon the relevant/irrelevant labels assigned by the user during the presenting step (**Lewis**: abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 14 applies. The classifier produced will depend on the manually annotated data).

## **Claim 2**

Lewis anticipates the presenting step includes the steps of: assessing a value that labeling a set of communications from each group will provide to the classifier being developed (**Lewis**: C7, L60 to C9, L9; C11, L34 to C12, L4; EN: item 14 applies. The weighting factors, the probability values and the RSV value); and selecting a next group for labeling based upon the greatest respective value that will be provided to the classifier being developed from the assessing step (**Lewis**: C7, L60 to C12, L4).

## **Claims 3 and 49**

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying communications (text, electronic, etc.) (**Lewis**: abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising the steps of:

(a) presenting communications to a user for labeling as relevant or irrelevant, the communications being selected from groups of communications including (**Lewis**: abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; Examiner's Note (EN): item 14 applies. Note that communications are **selected** from groups of communications, therefore selecting from **one** of these groups will read on the limitation. It is also noted that these definitions of groups can be considered non-functional descriptive material, since the classifier generated does not seem to depend from which of these groups the communications are selected (the different groups add nothing to the functionality of the claimed invention)):

a training set group of communications, the training set group of communications being selected by a traditional active learning algorithm (**Lewis**: abstract; C2, L64 to C3,

L11; C3, L58 to C4, L11; C6, L20-64; EN: item 14 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier);

a test set group of communications, test set group of communications for testing the accuracy of a current state of the classifier being developed by the present method (**Lewis:** abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12, L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced);

and a previously-labeled set of communications previously labeled by **at least one of** the user, the system and another user (**Lewis:** abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 14 applies. The machine annotated data is labeled by the system and manually annotated data is labeled by a user);

(b) developing a classifier for classifying communications based upon the relevant/irrelevant labels assigned by the user during the presenting step (**Lewis:** abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 14 applies. The classifier produced will depend on the manually annotated data).

#### **Claim 4**

Lewis anticipates the previously-labeled set of communications includes communications previously labeled by the user (**Lewis:** abstract; C1, L38 to C2, L22;

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C4, L1-11; C6, L20-64; C7, L1-40; EN: the manually annotated data).

**Claim 6**

Lewis anticipates the previously-labeled set of communications includes communications previously labeled by the system (**Lewis:** abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system).

**Claim 7**

Lewis anticipates the previously-labeled set of communications includes communications previously labeled by a user and communications previously labeled by the system (**Lewis:** abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 14 applies. The learning algorithm will use both manually annotated data and machine annotated data).

**Claim 8**

Lewis anticipates the presenting step includes the steps of: assessing a value that labeling a set of communications from each group will provide to the classifier being developed (**Lewis:** C7, L60 to C9, L9; C11, L34 to C12, L4; EN: item 14 applies. The weighting factors, the probability values and the RSV value); and selecting a next group for labeling based upon the greatest respective value that will be provided to the classifier being developed from the assessing step (**Lewis:** C7, L60 to C12, L4).

**Claim 9**

Lewis anticipates the presenting step includes the steps of: assessing a value that labeling a set of communications from each group will provide to the classifier being

developed (**Lewis:** C7, L60 to C9, L9; C11, L34 to C12, L4); and selecting a next group for labeling based upon the achieving known performance bounds for the classifier (**Lewis:** abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12, L4; C13, L40-62; EN: determining if a satisfactory classification vector has been produced).

#### **Claim 10**

Lewis anticipates the step of developing an expression of labeling criteria in an interactive session with the user (**Lewis:** C2, L1-22; C7, L1-57; EN: item 14 applies. The user will input data (an interactive session) for the documents regarding their relevance).

#### **Claims 16 and 27**

Lewis anticipates the step of developing an expression of labeling criteria produces a criteria document (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: item 14 applies. The classification vector is considered a criteria document that will depend on the data input by the user).

#### **Claims 17 and 28**

Lewis anticipates the criteria document includes a list of items that are considered relevant and a list of things that are considered irrelevant (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the weights of the terms (items) in the classification vector will determine the relevance of the documents. Also not that a set of relevant documents from the documents in the database is obtained).



**Claims 19, 29 and 31**

Lewis anticipates the expression and/or the criteria document include a group of keywords and/or phrases for use by the system in automatically labeling communications (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

**Claim 20**

Lewis anticipates the interactive session is conducted prior to the presenting step (**Lewis:** C7, L1-57).

**Claims 21 and 50**

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying communications (text, electronic, etc.) comprising the steps of:

(a) developing an expression of labeling criteria in an interactive session with the user (**Lewis:** C2, L1-22; C7, L1-57; EN: item 14 applies. The user will input data (an interactive session) for the documents regarding their relevance);

(b) presenting communications to a user for labeling as relevant or irrelevant (**Lewis:** abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1); and

(c) developing a classifier for classifying communications based upon the relevant/irrelevant labels assigned by the user during the presenting step (**Lewis:** abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 14 applies. The classifier produced will depend on the manually annotated data);

wherein **at least one** of the presenting step (b) and the developing step (c) use the expression of labeling criteria developed in the developing step (a) (**Lewis:** abstract;

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C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: the user will input data and label the documents and this data will be used by the learning algorithm to develop the classifier).

**Claim 27**

Lewis anticipates the step of developing an expression of labeling criteria produces a criteria document (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: item 14 applies. The classification vector is considered a criteria document that will depend on the data input by the user. Also not that a set of relevant documents from the documents in the database is obtained).

**Claim 28**

Lewis anticipates the criteria document includes a list of items that are considered relevant and a list of items that are considered irrelevant (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the weights of the terms (items) in the classification vector will determine the relevance of the documents).

**Claim 29**

Lewis anticipates the criteria document includes a group of keywords for use by the system in automatically labeling communications (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

**Claim 31**

Lewis anticipates the expression of labeling criteria includes a group of keywords and/or phrases for use by the system in automatically labeling communications (**Lewis:**

C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; EN: the terms in the classification vector).

### **Claim 32**

Lewis anticipates the group of keywords is also for use by the system in a step of gathering communications (**Lewis:** C5, L5 to C6, L55; C11, L55 to C12, L3; EN: the classification vector is used to classify and annotate the documents in the database).

### **Claims 33 and 51**

Lewis anticipates a computer assisted/implemented method for developing a classifier for classifying communications (text, electronic, etc.) (**Lewis:** abstract; C1, L5-8; C1, L30-45; C3, L58 to C4, L11) comprising the steps of: (a) defining a domain of communications on which the classifier is going to operate (**Lewis:** abstract; C1, L5-29; C6, L20-55; C7, L13 -40; EN: the database of documents is considered a domain of communications on which the classifier operates. Also note that this is a text classifier (a domain of communications). The manually annotated documents and the machine annotated documents can also be considered domains); (b) collecting a set of communications from the domain (**Lewis:** C5, L5 to C6, L65; C9, L25-46; C11, L55 to C12, L3; receiving data from the database); (c) eliciting labeling communication criteria from a user (**Lewis:** C1, L46 to C2, L22; C6, L20-64; C7, L1-57; EN: the data input by the user or the manual annotation of the documents); (d) labeling, by the system, communications from the set of communications according, at least in part, to the labeling communication criteria elicited from the user (**Lewis:** abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data. Note that the

documents will be annotated using the classification vector obtained from the manually annotated training data); (e) labeling, by the user, communications from the set of communications (**Lewis:** abstract; C1, L38 to C2, L22; C6, L20-64; C7, L1-40; Fig. 1; EN: the user will annotate the documents (relevant or irrelevant)); (f) building a communications classifier according to a combination of labels applied to communications in labeling steps (d) and (e) (**Lewis:** abstract; C1, L38 to C2, L22; C4, L1-11; C6, L20-64; C7, L1-40; Fig. 2; EN: item 14 applies. The classifier produced will depend on the manually annotated data and the machine annotated data).

#### **Claim 34**

Lewis anticipates the combination of the labeling steps (d) and (e), and the building step (f) includes the step of selecting communications for labeling by the user targeted to build the communications classifier within known performance bounds (**Lewis:** C6, L20-64; C9, L25 to C11, L32; C13, L40-62; EN: testing the classification vector for a termination condition and iterating if the condition has not been met).

#### **Claim 35**

Lewis anticipates the selecting step **selects communications from groups of communications** including: a training set group of communications, the training set group of communications being selected by a traditional active learning algorithm (**Lewis:** abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 14 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for

the classifier); a test set group of communications, test set group of communications for testing the accuracy of a current state of the classifier being developed by the present method (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12,L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced); and a previously-labeled set of communications previously labeled **by at least one** of the user, the system and another user (**Lewis**: abstract; C1, L38 to C2, L22; C2, L64 to C3, L11; C3, L64 to C4, L11; C6, L20-64; C7, L1-40; EN: item 14 applies. The machine annotated data is labeled by the system and manually annotated data is labeled by a user).

#### **Claim 36**

Lewis anticipates the selecting step **selects communications from groups of communications** (EN: note that only selecting from one group is sufficient to read on this limitation. The language does not suggest that one communication from each group must be selected) including: a training set group of communications, the training set group of communications being selected by a traditional active learning algorithm (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 14 applies. Traditional active learning algorithm not further defined. The Examiner reads supervised and unsupervised learning traditional active learning algorithms. The machine annotated data and the manually annotated data will form the training set for the classifier); a system-labeled set of communications previously labeled by the system (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: the machine annotated data is input to the supervised learning system); a test set group of

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communications, test set group of communications for testing the accuracy of a current state of the classifier being developed by the present method (**Lewis**: abstract; C5, L5 to C6, L18; C9, L22-65; C11, L55 to C12,L4; C13, L40-62; EN: the classification vector and the document vectors will be used to determine if a satisfactory classification vector has been produced); a faulty set of communications suspected to be previously mis-labeled by the user; and a random set of communications previously labeled by the user (EN: not necessary to select from this group).

**Claim 37**

Lewis anticipates the communication criteria elicited in the eliciting step (c) is used, in part, to determine communications to collect in the collecting step (b) (**Lewis**: C6, L20-64; C7, L14-40; C9, L25-46; C11, L55 to C12, L3; EN: the documents collected from the database will depend on the user's inputs or manually annotated documents).

**Claims 38, 40 and 43**

Lewis anticipates the eliciting step (c) involves an interactive session with the user (**Lewis**: C2, L1-22; C7, L1-57; EN: item 14 applies. The user will input data (an interactive session) for the documents regarding their relevance).

**Claims 39 and 42**

Lewis anticipates the communication criteria elicited in the eliciting step (c) is used, in part, by the system to label communications in the labeling step (d) (**Lewis**: C2, L1-22; C6, L20-64; C7, L1-57; EN: machine annotations will depend on the manually annotated data).

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**Claims 41 and 48**

Lewis anticipates the building step (f) involves an active learning process (**Lewis**: abstract; C2, L64 to C3, L11; C3, L58 to C4, L11; C6, L20-64; EN: item 14 applies. Active learning process not further defined. The supervised learning algorithm is considered an active learning process).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 11-15, 22-24, 44,45 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis as set forth above in view of Fries et al. (US Patent #6,751,606, referred to as **Fries**).

**Claim 11**

Lewis does not teach the interactive session includes the steps of posing hypothetical questions to the user regarding what type of information the user would consider relevant.

Fries teaches The method of claim 10, wherein the interactive session includes the steps of posing hypothetical questions to the user regarding what type of information the user would consider relevant (**Fries**: C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 14 applies. Displaying alternatives

to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing hypothetical questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis**: C7, L1 to C8, L36).

#### **Claim 12**

Lewis does not teach the hypothetical questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 11, wherein the hypothetical questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 14 applies. "Something else" and "show me an overview" are "unsure" responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the hypothetical questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).



**Claim 13**

Fries teaches The method of claim 11 wherein subsequent questions are based, at least in part, upon the answers given to previous questions (**Fries:** C25, L26-60; **EN:** item 14 applies. The screens displayed will depend on the answers from previous screens).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating subsequent questions are based, at least in part, upon the answers given to previous questions as taught by Fries for the purpose of having means to control the process of obtaining information from the user.

**Claim 14**

Lewis teaches the step of developing an expression of labeling criteria produces a criteria document (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; **EN:** item 14 applies. The classification vector is considered a criteria document that will depend on the data input by the user).

**Claim 15**

Lewis teaches the expression and/or the criteria document include a group of keywords and/or phrases for use by the system in automatically labeling communications (**Lewis:** C2, L1-22; C5, L5 to C6, L18; C7, L1-57; C9, L10 to C11, L31; **EN:** the terms in the classification vector).

**Claim 22**

Lewis does not teach the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant.

Fries teaches The method of claim 21, wherein the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant (**Fries**: C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 14 applies. Displaying alternatives to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis**: C7, L1 to C8, L36).

**Claim 23**

Lewis does not teach the questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 22, wherein the questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 14 applies. "Something else" and "show me an overview" are "unsure" responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the hypothetical questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).

#### **Claim 24**

Lewis does not teach subsequent questions are based, at least in part, upon the answers given to previous questions.

Fries teaches The method of claim 21 wherein subsequent questions are based, at least in part, upon the answers given to previous questions (**Fries**: C25, L26-60; EN: item 14 applies. The screens displayed will depend on the answers from previous screens).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating subsequent questions are based, at least in part, upon the answers given to previous questions as taught by Fries for the purpose of having means to control the process of obtaining information from the user.

**Claim 44**

Lewis does not teach the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant.

Fries teaches The method of claim 43, wherein the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant (**Fries:** C8, L62 to C9, L4; C20, L35-54; C25, L18 to C27, L3; Figs 5,18, 20, 24, 25 and 30-37; EN: item 14 applies. Displaying alternatives to the user for the search query or refining a search query is information that the user would consider relevant).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the interactive session includes the steps of posing questions to the user regarding what type of information the user would consider relevant as taught by Fries for the purpose of guiding and facilitating the user to input the annotations and other data for the documents in the database so as to obtain a better classification of the documents (**Lewis:** C7, L1 to C8, L36).

**Claim 45**

Lewis teaches the interactive session also allows the user to provide keywords based upon a criteria the user considers relevant (**Lewis:** C7, L1-57; EN: the user request specifies words or attributes the user believes are likely to occur in the relevant

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documents).

#### **Claim 47**

Lewis does not teach the questions elicit "yes", "no" and "unsure" responses from the user.

Fries teaches The method of claim 44, wherein the questions elicit "yes", "no" and "unsure" responses from the user (**Fries**: Figs. 18, 20, 29; EN: item 14 applies. "Something else" and "show me an overview" are "unsure" responses).

It would have been obvious to one of ordinary skill in the arts at the time of the applicant's invention to modify the teachings of Lewis by incorporating the hypothetical questions elicit "yes", "no" and "unsure" responses from the user as taught by Fries for the purpose of facilitation the process of obtaining information from the user regarding what documents are relevant or irrelevant (**Lewis**: C7, L1-40).

#### **Examination Considerations**

11. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 105455, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

12. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

13. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

14. Examiner's Opinion: items 11-13 apply. The claims and only the claims form the metes and bounds of the invention. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

### **Conclusion**

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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16. Claims 1-51 are rejected.

***Correspondence Information***

17. Any inquires concerning this communication or earlier communications from the examiner should be directed to Omar F. Fernández Rivas, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-2589 or email [omar.fernandezrivas@uspto.gov](mailto:omar.fernandezrivas@uspto.gov).

If you need to send an Official facsimile transmission, please send it to (571) 273-2589.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, David Vincent, may be reached at (571) 272-3080.

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